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THE
NATURAL HISTORY
OF
BRITISH INSECTS;

EXPLAINING THEM
IN THEIR SEVERAL STATES,
WITH THE PERIODS OF THEIR TRANSFORMATIONS;
THEIR FOOD, OECONOMY, &c.

TOGETHER WITH THE
HISTORY OF SUCH MINUTE INSECTS
AS REQUIRE INVESTIGATION BY THE MICROSCOPE.

THE WHOLE ILLUSTRATED BY
COLOURED FIGURES,
DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

BY E. DONOVAN.

V O L. VII.

L O N D O N :

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P L A T E CCLXXIV.

F I G. I. II.

P H A L Æ N A H U M U L I.

G H O S T M O T H.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Female yellow, with fulvous marks. Male snowy white.

P H A L Æ N A H U M U L I: alis flavis fulvo striatis maris niveis. *Linn.*
Syst. Nat. 2. 833. 84.—*Fn. Sv.* 1147.

H E P I A L U S H U M U L I: *Fab. Ent. Syst. T. 3. p. 2. 5. sp. 1.*
Degeer. Inf. 1. tab. 7. fig. 5, 6.
Sulz. Hist. Inf. tab. 22. fig. 1.

The male and female of *Phalæna Humuli* are very dissimilar, and may easily be mistaken for distinct species. The male is perfectly white, with a gloss like satin, the abdomen, antennæ, and margin of the wings excepted, for these are reddish brown. The female is of a fine yellow colour, with several fulvous or orange marks; and is somewhat larger than the other sex.

The larva lives in the earth, at the roots of the Burdock and hop. It is of a very pale or whitish colour, with a brown head, and has sixteen feet.

F I G. III.

P H A L Æ N A H E C T A.

GOLDEN SWIFT MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings yellow, the anterior pair with two yellow bands of interrupted dots.

P H A L Æ N A H E C T A : lutea, alis deflexis : primoribus fasciis duabus albidis obliquis punctata interruptis. *En. Sv.* 1148.—
Gmel. Linn. Syst. Nat. Ent. p. 2617. *sp.* 85.

H E P I A L U S H E C T U S. *Fab. Ent. Syst. T. 3. p. 2. p. 6. Sp. 4.*
Degeer. Inf. 1. tab. 7. fig. 11.

This species is common in the skirts of woods in May and June. The colours in the male Insect are more vivid than the female, and the spots on the anterior wings in particular are of such a beautiful yellow, that English collectors have termed this kind the Golden Swift Moth.

It commences its flight earlier in the evening than any other of the nocturnal lepidopterous insects. Its manner of flying is very singular, and attracted the notice of Linnæus, who aptly compares it to the motion of the pendulum of a clock.

The larva is unknown: it is supposed to feed on the roots of plants under ground.



P L A T E CXIV.

P H A L Æ N A C O S S U S.

GOAT MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

S P E C I F I C C H A R A C T E R,

A N D

S Y N O N Y M S.

Grey, with short black irregular curved lines on the upper wings. Antennæ feathered.

P H A L Æ N A C O S S U S. *Bombyx* elinguis, alis deflexis nebulosis, thorace fascia postica atra. *Linn. Syst. Nat.* 2. 504. 40. *edit.* 10.

P H A L Æ N A p e c t i n i c o r n i s elinguis, alis albo cinereis, striis transversis nebulosis nigris. abdomine annulis albis.

Geoff. Inf. 2. 102. 4.

Degeer Inf. Vers. Germ. 2. 1. 268. 1.

Merian. Europ. tab. 36.

Roef. Inf. 1. *phal.* 2. *tab.* 18.

Reaum. Inf. 1. *tab.* 17. *fig.* 1. 5.

Albin. Inf. tab. 35. *fig.* 56.

Lyonet Traite de Chenille.

Schæff. Icon. tab. 61. *fig.* 1. 2.

Goed. Inf. 2. *tab.* 33.

The Caterpillar of the Goat Moth feeds on the internal substance of willow trees ; it is said to be also found in the body of the oak, but we have never discovered any in such a situation. The eggs are laid in the crevices of the trees ; as soon as the Caterpillars are hatched, they begin to pierce into the solid wood. In most parts of England they are called Auger Worms ; the holes which they make in the timber appearing as if bored with that Instrument.

It lives in the Caterpillar state three years before it is transformed to a pupa ; when full fed it is four inches long, the body appears very fleshy, and without hairs ; the head is black, and armed with very sharp forceps ; the case is composed of bits of wood and saw-dust, which it unites with a strong web ; the inside is lined with a fine smooth white filmy substance, like satin ; it passes to the pupa state in the cavity which it has perforated in the caterpillar state, within three or four inches of the opening : it remains only two months in that state before the Fly is produced.

Is found in chrysalis in May ; in the fly state, the latter end of June, or in July.



P L A T E CLII.

PHALÆNA AESCULI.

WOOD LEOPARD MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings white, with many dark blue round spots. Six spots on the Thorax.

PHALÆNA AESCULI : elinguis lævis nivea, antennis thorace brevioribus, alis punctis numerosis cœruleo nigris, thorace fenis. *Lin. Syst. Nat.* 2. 833. 83 — *Fn. Sv.* 1150.

Bombyx Aesculi. *Mant. Inf.* 2. 116. 85.

Hepialus Aesculi. *Fab. Spec. Inf.* 2. 208. 146. 4.

Cossus Aesculi. *Wien. Verzeichn. tab. tit. præf. Acta Soc. Berol. phys.* 3. tab. 1. fig. 1. 2.

Pod. Inf. 88. 16.

Wood Leopard Moth. *Harris Inf. angl.*

It is to a very singular and trivial circumstance we are indebted for the specimens of both the male and female of this rare species. They were observed together on the bark of an elm tree in the Mall in St. James's Park, by some ignorant persons, who being terrified at their extraordinary appearance, attempted to destroy them, but a gentleman

gentleman who happened to pass by at the same instant, having either more curiosity or less apprehension of danger from touching them, took them up, and preserved them. We conclude they could have but just before come out of their chrysalides, the female being in a most perfect state, and the male equally fine, except that it had lost one of its upper wings.

We must claim the indulgence of the more scientific part of our readers for the minuteness with which we have detailed such trifling circumstances; it can indeed afford very little amusement to them, but, it may serve to remind many who are not in the habit of collecting Insects, that their occasional endeavours would be likely to extend the Science of Entomology; for it often happens that the most assiduous Naturalists are indebted to such persons for the rarest specimens their cabinets possess.

The Moths were found late in June. On examining the crevices of some of the trees near the spot, we found a quantity of the eggs; they were rather of an oval form, and linked together like a chain, as shewn in the plate; and having carefully preserved them in a branch of a plumb-tree * under the bark, we had the satisfaction to see some young Caterpillars produced in a few weeks. But either owing to the want of proper food or good management they all died soon after, except two or three, and these never arrived at their full size. The Caterpillar from which the Figure in the annexed is copied, was found under the bark of one of the elm-trees in St. James's Park, but being disturbed, it never became a Pupa. The Caterpillar makes a case, of the dust of the wood which it gnaws, and cements together, and in this it lies concealed beneath the bark. The head of the Caterpillar is hard, and the first ring is furnished with a strong horny substance,

Harris, about twenty years ago, was so fortunate as to breed this Moth from the Caterpillar, and we are not acquainted with any

* I frequently find, when the Plant of an Insect is unknown, that they will live on the Plumb-tree, when they refuse other food.

similar instance since that time. In the Plates of Roefel, vol. 4. a Figure of the Caterpillar is given, but without either Pupa or Moth, so that were it not for the reference and authority of Linnæus, and since his time, of Fabricius, it would scarcely be known to what Insect it belonged. The eggs we have not found either figured or described, though they are so very singularly united together, and would certainly have been noticed by the ingenious Roefel if he had met with them.

The Antennæ of the female are fetaceous, or like a bristle, but that part of the male is both singular and beautiful; it is elegantly feathered next the base. and terminates in a bristle, like the female.



P L A T E I.

PHALÆNA PAVONIA.

EMPEROR-MOTH.

GENERIC CHARACTER.

Antennæ tapering from the base : wings in general deflected when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS

Wings rounded, grey, clouded, and barred with brown ; an ocellar semitransparent spot in the middle of each wing.

PHALÆNA pavonia : alis rotundatis griseo nebulosis subfasciatis : ocello nictitante subfenestrato. *Linn. Fn. Suec.* 1099.

The male is smaller than the female, its colours much darker on the upper wings, the lower orange, and the antennæ as in the rest of the Bombyces considerably pectinated, while those of the female are setaceous. The caterpillar is of a green colour, with a black ring surrounding each joint, and every ring is beset with several yellowish tubercles.

The conformity and likeness which prevails between the male and female throughout the greater part of the animal system, cannot however in Insects be implicitly depended on; the difference in many is such as even to mislead some very accurate Entomologists, the illustrious Linnæus not excepted. In this species it is not so great as in many, but such as entitles the female to a figure in a future plate: Our figure is of the male.

Albin, (*Plate 25, Subject 37,*) has given a figure of the male and female on the same plate, and describes a male to have changed to the aurelia state as in our plate represented *July 16*, and *March 18* following to have produced the Fly. But the time of their appearance depends on the proportion of heat or cold; as the author's subject was preserved from the severity of winter, in a warm room. The usual time to find them in the caterpillar state is August, and in April the Fly.

The singular provision which nature makes for the protection of this Fly deserves particular notice; when the time of its continuation in the caterpillar state is expired, by much labour it forms a kind of bag or purse, of a very tough substance; this it fixes against the trunks of trees, &c. by a number of hairs or filaments, which remain on the external surface. It lines the outer case by one of a finer texture, the top of which is closed by several bristles that unite in the center, exactly representing a cap, and excludes almost the possibility of its receiving an injury during this defenceless state. In this bag it passes to the aurelia, and remains until the birth of the perfect insect.—Our figure represents the chrysalis or aurelia in the bag; part appears torn away to exhibit its situation therein.

Were we to unite the several accounts of authors respecting its food, it would appear to be a general feeder; it will live on the rose, the elm, and the willow; and on thorns and brambles particularly.



THE
NATURAL HISTORY
OF
BRITISH INSECTS.

P L A T E CCLIII.

PHALÆNA PAVONIA, *minor. fem.*

EMPEROR MOTH, *female.*

THE male of this fine species of *Phalæna* has been given in the first number of this Work, with a promise that the female should be added in a future Plate. The larva and pupa is represented with the male Insect; but we have also introduced other caterpillars of the same species with the annexed figure, to shew the different stages of their growth. When young they are yellowish: the tubercles black, with a stripe of the same on the segments of the joints. After this, the yellow bands become orange, and the transverse black stripes appear interrupted with longitudinal bands of pale green. Some are entirely green, except the tubercles, which are yellow, and a small black speck on each joint; and others are green, checquered with black,

black, and marked on the side with a row of semilunar spots. In the winged state, we find more permanent and characteristic distinctions.

Linnæus, and after him Fabricius, describes three varieties of *Phalæna Pavonia*, α minor β media and γ major, The first is the species found in this country, and in the north of Europe. The existence of the second was formerly disputed by some naturalists; and the last is so extremely different, at least in point of magnitude, that we may almost venture to remove it from the two preceding.

The difference between the male and female of the common Emperor Moth is strikingly obvious; the male is smaller than the female, and the colours in general darker; the posterior wings also are orange in the male, and not so in the female; and finally, the two sexes may be determined by the structure of the antennæ: those of the male being nearly oval, and very deeply feathered, or pectinated, and those of the female being also pectinated, but so slightly as to appear setaceous. The *Phalæna Pavonia media* is a most extraordinary variety, for both the male and female so perfectly resemble the *female Emperor Moth*, *P. P. media*, which we have figured, that it may be mistaken for the same species: the female differs in no respect from it; and the male only in the form of the antennæ. We have received this remarkable insect from Italy and Germany. It is figured by *Esper, Phal. 3. tab. 3*; and is thus described by Linnæus and Fabricius, β media: “singularis ob fœminam mari similimam.” The third, *P. Pavonia major*, can by no means be confounded with the preceding; our specimen of it is six inches in breadth, and is also very bulky: it is found in the *Pays de vaud*. Roefel has given a figure of both sexes with the larva and pupa. The winged insect is of a dingy brown, the marks somewhat similar to those of the common kind. The larva is large, with the head small in proportion. The whole is of a citron green,
furnished

furnished with elevated tubercles, whose summits diverge into rays like a star, and are of an azure blue colour: it is also beset with a number of long filaments or threads, each of which terminates in a little capitulum similar to the antennæ of a Butterfly.



P L A T E CCXXVII.

PHALÆNA MONACHA.

BLACK ARCHES MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings white, with black arches : abdomen with red incifures.

PHALÆNA MONACHA : alis deflexis albis atro undatis, abdominis incifuris fanguineis. *Lin. Syst. Nat.* 2. 821. 43.—
Fn. Sp. 1130.—*Fab. Ent. Syst. T.* 3. p. 1. 446. 119.
Wien. Verz. 52. 5.

Wilks pap. 19. tab. 3. a. 4.

Schæff. Icon. tab. 68. fig. 2, 3.

We have in few instances been able to present a species of *Phalæna*, with all its metamorphosis, more deserving attention than the Black Arches Moth. It is uncommonly rare in the winged state, and its larva and pupa is, we presume, unknown to the English Entomologists at this time. We imagine Harris met with, and bred
 this

this Insect, though he has not figured it : he says it fed on the Oak, that it changed into chrysalis June 9th, and appeared in the winged state July 9th, a statement nearly corresponding with the later observation of others.

The larva is rather a general feeder ; for though Harris mentions only Oak, we found that it would not refuse the leaves of fruit-trees, such as Apples, pears, &c. ; it feeds also on the Willow and Sallow. The female is larger than the male, and has antennæ like bristles.



P L A T E CLXIII.

PHALÆNA DISPAR.

GIPSEY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS.

Female, yellowish white with dark transverse zigzac lines across the upper wings. Male, smaller, dark brown, with lines and waves of black.

PHALÆNA DISPAR: alis deflexis masculis griseo fuscoque nebulosis, fœmineis albidis: lituris nigris.

Lin. Syst. Nat. 2. 821. 44.

Fab. Spec. Inf. 2. 182. 66.

—*Syst. Ent.* 3. pars. 1. 437. 94.

Roef. Inf. 1. phal. 2. tab. 3.

Reaum. Inf. 2. tab. 1. fig. 11. 14.

Merian. Europ. 1. tab. 18.

Frisch. Inf. 1. 14. tab. 3.

Schæff. Icon. tab. 28. fig. 3—6.

Geoffr. Inf. 2. 112. 14.

That

That the *Phalæna Dispar* was not uncommonly scarce about fifteen years ago, is evident from this circumstance, few collections of British insects, that were in the hands of eminent collectors, are without an English specimen, which was procured about that time; and Harris, in 1775, as well as some other writers about the same period, speak confidently of its being found in this country. Berkenhout, in his Synopsis, says, it is "*frequent* about Ealing, in Middlesex." But this we can, on the best authority, dispute; it never was frequent in that place, though it has several times been met with, by collectors of insects; a parcel of eggs being obtained from them, and hatching, many caterpillars were procured; and these being carefully attended, several moths were also produced. This is not a very extraordinary circumstance, as many of the rarest insects may become common, when the eggs, or a brood of caterpillars, can be discovered.

We are willing to acknowledge, that we have not been more fortunate in our researches for the caterpillar or moth of this species, than any others engaged in the science of entomology; but we have procured from Germany a collection, containing many valuable rarities that have been found in this country at different times; amongst these we have most perfect and finely preserved specimens of *Phalæna Dispar*, in its several states, and these perfectly agree with those formerly collected in England. Our Plate contains only one figure of the caterpillar, and that is of the female. The male differs only in being smaller, and in the size of the head, which is less in proportion than that of the female.

In this instance, we trust, any apology will be unnecessary, though the original specimens were not found in this country: it must be an advantage to the work to contain figures of the rarest insects; and should any of our readers be so fortunate as to find the caterpillar, they will be able to determine the species, and the proper food to rear it on; or, if the brood be extinct, the plate will be more interesting, as there cannot remain a doubt of its having been indigenous in England.

In foreign countries it is very injurious to gardens, and fruit-trees in particular. *Berkenhout* says, it feeds on “ Oak, Ash, Apple-trees, &c.” but we are rather inclined to doubt his information, except as to the latter, though he is partly sanctioned by *Linnæus*. *Geoffroy* says, it feeds on the Elm.

For the time of its appearance we are indebted to *Harris*; he says the caterpillar changed to chrysalis the 11th of July, the moth appeared July 31; from which it appears certain that he reared it from the caterpillar. He has not, however, given a figure of it in the *Aurelian*, or any other of his publications.



P L A T E CLX.

PHALÆNA PUDIBUNDA.

PALE TUSSOCK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings light, greyish: three transverse waves across each upper wing.

PHALÆNA PUDIBUNDA: alis deflexis cinereis, strigis tribus undatis fuscis. *Lin. Syst. Nat.* 2. 824. 44.

Fn. Sv. 1118.*Fab. Spec. Inf.* 2. 183. 68.*Ent. Syst. Tom.* 3. p. 1. p. 438. 97.

Phalæna pectinicornis, elinguis, alis deflexis cinereo undulatis, fasciis transversis obscurioribus, capite inter pedes porrectos. *Geof. Inf.* 2. 113. 15.

Phalæna cinerea, alis oblongis, exterioribus quatuor lineis nigricantibus transversis, distinctis. *Raj. Inf.* 185. 7.

Roes. Inf. 1. phal. 2. tab. 38.*Ammir. tab.* 18.*Goed. Inf.* 3. tab. 5.*Merian. Europ.* 1. tab. 47.*Degeer. Inf.* 1. tab. 16. fig. 11. 12.

The light Tussock Moth is found late in September, or during the month of October. The Caterpillar is both beautiful and singular: it feeds on the oak, on which it is met with, from the latter end of July till the middle of September, at which time it is of its full size, and becomes a pupa; it spins a web between the leaves, and remains in the chrysalis about thirty days. The eggs are of a pale brownish colour, fig. 1.



P L A T E D L X X V I .

P H A L Æ N A F A S C E L I N A .

DARK TUSSOCK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest : fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings deflected; cinereous, sprinkled with black points, and traversed by two flexuous fulvous streaks.

P H A L Æ N A F A S C E L I N A : alis deflexis cinereis : atomis strigisque duabus repandis. *Linn Syst. Nat.* 2. 825. 55.
Fn. Su. 1119.—*Fabr. Ent. Syst. T.* 3. p. 1. p. 439. 98.

The larva of this Moth is hairy and tufted, the pupa folliculate. The larva is found (chiefly on the oak) in the month of May; the Moth appears in July. A local species, common in some parts of the country, but not frequent near London.



P L A T E CCXXXII.

PHALÆNA QUERCIFOLIA.

LAPPET MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS:

Wings reversed, scalloped, red brown : mouth and flanks black.

PHALÆNA QUERCIFOLIA: alis reversis dentatis ferrugineis, ore tibiisque nigris. *Linn. Syst. Nat.* 2. 812. 18.
Fn. Sv. 1110.

BOMBYX QUERCIFOLIA. *Fab. Ent. Syst. T. 3. p. 1.* 420. 42.
Roef. Inf. 1. *Phal.* 2. *tab.* 41.
Schæff. Icon. *tab.* 71. *fig.* 45.
Merian Europ. *tab.* 1. *fig.* 3.
Reaum. Inf. 2. *tab.* 23.
Sulz. Inf. *tab.* 16. *fig.* 93.
Albin. Inf. 1. *tab.* 16.

Phalæna Quercifolia is a rare and interesting Insect, and is the largest of the English bombyces, if we follow the arrangement of the *Entomologia Systematica* of Fabricius, and remove the Linnæan *Bombyx Cossus* * to a new genus †.

The trivial name Lappet Moth has been given to this species by some early Collectors of English Insects, because they observed, when the creature was at rest, and the wings expanded in a natural position, that the anterior part of the second pair *lapped* over the first, instead of the first pair reposing on the second, as in many other species of *Phalæna*. This appearance is very striking, but not peculiar to *Phalæna Quercifolia*. *Bombyces*, with similar reversed wings, are numerous, and several of them natives of this country; as *Phal. Quercus*, *Potatoria*, &c.

In a former volume we have given The Pine Lappet Moth; an Insect that is extremely uncommon in Great Britain; that, with the present species, are the only two British *Phalæna* called Lappet Moths; another Insect closely allied to *P. Quercifolia*, and supposed to be the *Phal. Populifolia*, is said to be an English Insect, but on what authority we are not informed. The very different appearances of the larva of *Phal. Quercifolia* in different stages of its growth, may possibly have caused some mistake; for in one skin they are brown, with whitish marks; in another greyish, with dark brown marks; and when of a full size, are more inclined to brown and grey in some specimens than in others. Notwithstanding, however, the variation of colours, in all its changes, we find that the two oval blue marks on the second and third segment of the body are constant, and sufficient to determine the species. The larva of *Bombyx Populifolia* is very similar to that of *B. Quercifolia*, when young, if we may judge by the only figure of it extant, but the mark across the second segment is narrow and black; that on the third segment broader, with two semi-lunated red spots.—*Vide Kleeman's Beytraege, &c. Vol. 3. tab. 14.*

* Goat Moth,

† *Cossus ligniperda*.—*Fab.*

The larva of *P. Quercifolia* we have taken in Darent Wood, Kent, on the grafs; it feeds alfo on Willow, Blackthorn, and Whitethorn. At the end of April, or not later than May, it forms a large and loofe spinning interwoven with its hairs, of black, reddifh, and grey colours. The pupa is black, but appears perfectly white, being covered with a fine white pollen, or powder; each fegment is encircled by a belt, of a red colour. In July and Auguft it is found in the Fly ftate.

P L A T E CLXXVIII.

P H A L Æ N A P I N I.

PINE LAPPET MOTH

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

Bombyx.

Antennæ of the male feathered.

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings grey, speckled with brown: a broad space of red brown across each, and a triangular white spot near the anterior margin.

BOMBYX PINI: alis reversis griseis: fascia ferruginea punctoque triangulari albo. *Linn. Syst. Nat.* 2. 814. 24.—*Fn. Sv.* 1104.—*Fab. Syst. Ent.* 3. p. 2. 426. 62.

Merian. Europ. tab. 22.

Wilks. pap. 29. *tab.* 3. *b.* 5.

Roes. Inf. 1. *phal.* 2. *tab.* 59.

Schæff. Icon. tab. 86. *fig.* 1—3.

Kleman. Inf. 2. *Suppl. pl.* 6. *fig.* 7.

The Pine Lappet Moth is one of those species of insects, that we can have no doubt are natives of this country, from the concurrent testimony

testimony of the respectable authors; though from the scarcity of many amongst them, we should be scarcely inclined to admit them into an English collection without such authority. Perhaps the rarity of some of those insects should be rather attributed to the little attention bestowed on the science of Entomology by such as reside in parts of the kingdom that are most favourable to the increase of insects in general; or to those particularly rare species that are local, or feed only on plants of one kind; such as the *Sphinx Euphorbiae*, and many others.

Wilks has given the Pine Lappet Moth in the third plate of the English butterflies. Harris has not figured it in the Aurelian*, but in the Pocket Companion† he not only describes it amongst the English Lepidoptera, but says, the time of its changing into Chrysalis is May, and that it appears in the winged state in June; from this we must suppose, that he had reared it from the Caterpillar. Berkenhout, in his synopsis of the Natural History of Great Britain‡, has given it without hesitation as an English insect; and the authority of a little tract on insects, by Martin§, may be adduced as a further confirmation of its being a native of this country.

This Insect is not uncommon in Germany. Schæffer has figured it amongst the insects that are to be found in the environs of Ratibon; and Roesel, without considering it a local species, has given it as a native of Germany. Whether it is found in other parts of Europe, except Switzerland and Germany, we cannot decide; but we have the precise species from Georgia in North America.

We observe a considerable difference between the colouring of this moth in the works of Schæffer and Roesel, which is the more remarkable, as they both describe the insects of the same country; the figure given by the latter is much darker in the chestnut colour, and the grey has no appearance of an intermixture of red specks and markings, like that figured in Schæffer, which inclines very much to red or flesh colour throughout. Roesel has only figured the female; Schæffer has given both sexes.

* Published in 1766.

† 1775.

‡ 1789.

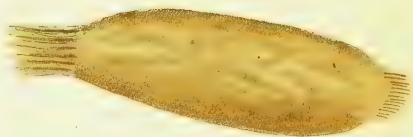
§ 1785.



C. 4



C. 5



P L A T E CLXXVII.

THE

C A T E R P I L L A R

O F

P H A L Æ N A P I N I.

We have introduced in the annexed plate, figures of the Caterpillars of *Phalæna Pini*, copied from the works of the two most accurate entomologists that have described or figured the insects of any part of the European continent; and though unfortunately the descriptions are written in a language so little understood as to be wholly useless; the figures are very interesting. In this instance we have deviated no more from our original plan than when we introduced the larva of *Sphinx Euphorbiæ*, and *Phalæna Fraxini*; and we flatter ourselves in thus endeavouring to give the history of a rare insect complete, the approbation expressed by our subscribers, on former occasions, will not be withheld on the present.

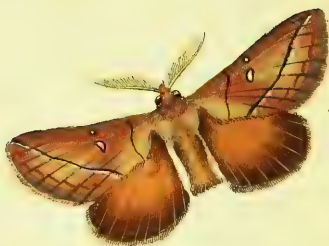
Roefel, in 1746, published the *Insecten Belustigung*; in which work we find a figure of the Caterpillar of *Phalæna Pini*: it accords with the description given by Fabricius; perhaps the description was taken from Roefel's plate. "Larva subcaudata, albo griseo fuscoque variegata, collaribus coeruleis: punctis utrinque rufis." *Fab. Syst. T. 3. p. 2. 426. 62.*

Kleeman, the relation and successor of Roefel, in the third part of his supplement, Plate 6. fig. 7 *. has shewn the Caterpillar of this

* Published in 1793.

insect in another skin, or probably it is the Caterpillar of the male, Roefel having only the female in his works; in this specimen the colours are bright, and it is particularly distinguished by the collar being red instead of blue. As this part of his work is scarcely known, and has not yet been noticed by *Fabricius*, we cannot collect the opinion of any systematical writer, whether it be the other sex, or only a different skin.

The pupa we received with the moths; and the eggs figured in plate 178, were taken from the body of the female.



P L A T E CXLVIII.

PHALÆNA POTATORIA.

DRINKER MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night,

BOMBYX.

Antennæ, of the male feathered; female, like a bristle.

SPECIFIC CHARACTER

AND

SYNONYMS.

Yellow brown. Wings slightly scalloped; on each of the upper wings an oblique line, and two white spots near the anterior margin. Female paler colour than the male,

PHALÆNA POTATORIA; alis reversis subdentatis flavis, striga fulva repandaque, punctis duobus albis.—*Syst. Ent.* 564. 28.

PHALÆNA maxima alis fulvo flavicantibus. *Raj. Inf.* 143. 3.

Goed. Inf. 1. tab. 12.

Sepp. Inf. 4. 37. tab. 8.

Schæff. Icon. tab. 67. *fig.* 10. 11.

Wilk. pap. 27. tab. 3. b. 2.

The Caterpillars of this Insect feed on grafs, they are found in May, and the Moth appears about the middle of June.

The female differs in several respects from the male; it is of a buff colour, and is generally, though not always, larger. The chrysalis is black, and is enclosed in a strong yellowish case, as shewn in the plate.



P L A T E CIII.

P H A L Æ N A Q U E R C U S .

LARGE EGGER MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ taper from the base. Wings, in general, contracted, when at rest. Fly by night.

S P E C I F I C C H A R A C T E R .

Antennæ of the Male feathered. Wings dark brown, with a bright yellow bar across each, and a strong white spot on the center of each superior wing.—Female marked like the Male, but of a paler colour.

P H A L Æ N A Q U E R C U S . *Linn. Syst. Nat. 2. 814. 25.—Fn. Sv. 1106.*

P H A L Æ N A maxima fulva, alarum exteriorum superioritate intensius colorata, cum macula in media alba, inferiore dilutiore. *Raj. Inf. 142. 2.*

Merian. Europ. 1. tab. 10.

Harris. Aurel. pl. 29. a. b. c. d. e. f.

Albin. Inf. tab. 18. fig. 25.

Reaum. Inf. 1. tab. 35.

Anmiral. Inf. tab. 31.

Roef. Inf. 1. phal. 2. tab. 35.

Petiv. Gazoph. tab. 45. fig. 5.

Goed. Inf. 1. 51. tab. 7.

The Caterpillars of this Moth feed on the White and Black Thorn, together with several herbaceous plants ; it has been observed to thrive better in the breeding cage when regularly supplied with fresh grafs, to keep the former in a proper ftate of moiſture.

The Female deposits her eggs in June or July, the Caterpillars are hatched in Autumn, and remain in that ftate during the Winter; about the middle of May it spins a large brown caſe, within which it paſſes to the Pupa ftate ; the Moths appear in June.

In the Caterpillar ftate it is ſcarcely poſſible to diſtinguiſh the Male from the Female, except that the former is ſmaller than the latter ; but in the laſt ftate their colours are entirely different, the Female being of a pale yellowiſh tint, inclining to fox colour, the Male is of a rich brown.

The Eggs are very curious, they reſemble in ſhape thoſe of a Hen, but are neatly mottled with dark brown.

The Caterpillars caſt their ſkins ſeveral times, and always thereby aſſume a new appearance, though the general colours and character of the ſpecies may be traced through every ſtage. Our figure is copied from a very large and fine coloured ſpecimen of the Female, that was met with at *Darent-Wood, Dartford*.

Explanation of the Figure ſhewn in Plate 103.

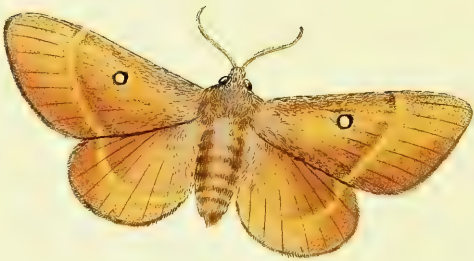
The Eggs of the natural ſize.

The Caſe which encloſes the Pupa ; the former is torn open to expoſe the latter within.





1



2

P L A T E C I V .

P H A L Æ N A Q U E R C U S .

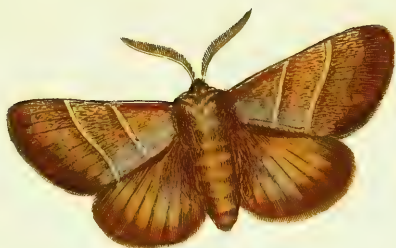
I N T H E .

W I N G E D S T A T E .

F I G . I . T h e M a l e .

F I G . I I . T h e F e m a l e .





P L A T E L X I X.

P H A L Æ N A R U B I.

FOX-COLOURED MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

No Trunk. First Wings horizontal. Second erect.

S P E C I F I C C H A R A C T E R.

Antennæ feathered. Wings entire, with a whitish margin; two whitish transverse waves on the first pair.

Syst. Ent. 565. 35.

Linn. Syst. Nat. 2. 813. 21.—*Fn. Sv.* 1103.

Wilk. Pap. 25. *Tab.* 3. a. 19.

Amniral. Inf. 32.

Roes. Inf. 3. *Tab.* 49.

The females of this species are very rarely met with, as they conceal themselves among the grass; but the males are commonly taken when flying, and generally indicate that the females are near.

The Caterpillars will feed on the willow, but prefer the leaves of the bramble.

In this state they are found about the latter end of June, July, or August; and remain so during the Winter. In April they change to the Pupa form, and in May they appear in the Fly state.

The Moth has little to recommend it to notice; and the Pupa, like most others, is of a dull uniform black brown; it is therefore under the form of a caterpillar that it appears to most advantage.



P L A T E CXVII.

P H A L Æ N A C R A T Æ G I.

O A K E G G E R M O T H.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings, in general contracted when at rest. Fly by night.

S P E C I F I C C H A R A C T E R.

Wings rounded. Ash-colour, or dull brown, with obscure waves of a darker colour.

PHALÆNA CRATÆGI.

Linn. Syst. Nat. 2. 823. 48.

Reaum. Inf. 1. tab. 44. fig. 10.

Degeer Inf. 1. tab. 11. fig. 20. 21.

We have never found this Insect common, though it must not be considered as a rare species; it is seldom met with near London: our specimen was found in the Caterpillar state at Dartford in May. It changed to Chrysalis in June. The fly came forth in September.

The male is rather smaller than the female generally, though not always. The strength of their colours is very inconstant, especially in the female, which we have seen very dark in some specimens; in others nearly as pale as the male; the general distinction however between the two sexes is, the male being of a light grey with spots and waves of brown, the female of an obscure brown with spots more diffused.





P L A T E XCV.

PHALÆNA NEUSTRIA.

LACKEY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings, in general, contracted when at rest. Fly by night.

SPECIFIC CHARACTER.

Antennæ feathered. Head, Thorax, Body, and Wings light brown; a dark broad wave across the middle of the upper Wings.

P. Neustria. B. alis reversis griseis, strigis duabus ferrugineis, subtus unica. *Syst. Ent.* 567. 42.—*Linn. Syst. Nat.* 2. 818. 35.

Phalæna pectinicornis elinguis, alis deflexis pallidis, fascia alarum transversali saturatiore. *Geoff. Inf.* 2. 114. 16.

Phalæna media tota cinerea. *Raj. Inf.* 214. 8.

Reaum. Inf. 2. Tab. 4. Fig. 1.—11.

Goed. Inf. 1. 57. Tab. 10.

Harris's Aurel. pl. 17.

Wilk. Pap. 21. Tab. 3. a 10.

Alb. Inf. 19. Fig. 27.

Frisch. Inf. 1. Tab. 2.

Roes. Inf. 1. Phal. 2. Tab. 6.

Fab. Spec. Inf. 2. 180. 58.

The Caterpillar of the Ph. Neustria are found in June, either on the white-thorn, black-thorn, or briar ; sometimes on fruit trees : they pass to the Chrysalis state in July, and the Moths appear in August.

The female deposits her eggs with such particular care and regularity, that a cluster of them forms one of the most pleasing objects for microscopical investigation ; they are crustaceous, of a light grey or bluish colour, elegantly marked at the broadest end ; they are disposed with the greatest symmetry around the small branches of the thorn, and are so cemented together that they cannot readily be separated.—The appearance of a cluster is represented in our plate.

The eggs are laid in autumn, though they are not hatched till the ensuing spring. When the young Caterpillars burst forth, they form into societies, sometimes of thirty or forty individuals, sometimes of a much greater number ; they immediately commence the formation of a spacious web, and if the weather be fine in two or three days, their work is completed ; as however they encrease in bulk, it is necessary to enlarge their dwelling, and this they manage either by adding new external coverings, or encreasing and extending the windings within. They seldom pass to the Pupa form in those nests, but separate in search of a more convenient place for that purpose when they have attained their full size.

The Caterpillar, when preparing for its next state, weaves a large silky case ; within which it forms another somewhat smaller ; and thus enveloped by its double cone, it changes to the Pupa form. The Pupa is black, and may be just discerned through the two cases, as represented in our plate.

The figure of the perfect Insect is copied from a female specimen ; the male is rather darker, and has the Antennæ more feathered.



P L A T E CCX.

P H A L Æ N A L A N E S T R I S.

LITTLE EGGER MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

BOMBYX.

Antennæ of the male pectinated, of the female setaceous.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Wings ferruginous: first pair with a white stripe: a spot of the same near the base, and another in the middle.

P H A L Æ N A L A N E S T R I S: alis reversis ferrugineis: striga alba, anticis puncto basique albis.—*Linn. Syst. Nat.* 2. 815. 28.—*Fn. Sv.* 1105.

Fab. Ent. Syst. 3. p. 1. 429. 68.

Wien. Verz. 57. 2.

Roef. Inf. 1. phal. 2. tab. 62.

The Caterpillars of the little Egger Moth, feed on black and white thorn, willow, lime-tree, &c. The female deposits a large cluster of eggs in a tuft of hair collected from her body. When these

these are hatched, the young begin to spin a strong white web, which they enlarge as their society increases; they remain together till they have devoured all the leaves of the plant on which they are hatched, or till they are arrived at full size to change into the chrysalis state.

These Caterpillars are not very uncommon in some parts of the country, especially in Kent. They are ready to change to chrysalis state late in June. The Moth is not produced till April following.

The trivial English name, Egger Moth, is given to this, and two or three other Moths, from the similitude of the case in which the chrysalis is inclosed to the shape of an egg.



P L A T E CCCVII.

P H A L Æ N A P O P U L I .

DECEMBER MOTH.

G E N E R I C C H A R A C T E R .

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Brown: an irregular pale streak across the anterior pair, and a smaller one near the base. A single pale streak across the posterior pair.

P H A L Æ N A P O P U L I : fusca antice pallida, alis reversis fuscescentibus: striga sesquialtera repanda albida. *Linn. Syst. Nat.* 2. 818. 34.—*Fn. Sv.* 1101.
—*Fab. Ent. Syst. T.* 3. p. 2. p. 429. sp. 70.
Wien. Verz. 58. 9.
Roef. Inf. 1. phal. 2. tab. 60.

We seldom meet with this interesting species, for it is found both in the larva and perfect state in the season, when few collectors are disposed to seek for it. It feeds on the white-thorn, becomes a pupa in November, and the Moth appears in December as its trivial English name implies.

P L A T E





P L A T E CLVIII.

PHALÆNA VERSICOLORA.

GLORY OF KENT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base, Wings in general deflexed when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Antennæ feathered. Male, first wings red brown, with transverse waves, black and white lines, and three white spots at the extreme angle. Second wings orange. Female larger, and colours paler throughout.

PHALÆNA VERSICOLORA: *Lin. Syst. Nat.* 2. 817. 31. *Fn. Sv.*
 IIII.

F

BOMBYX

BOMBYX VERSICOLORA: alis reversis griseis nigro-albis thorace antice albo. *Fab. Syst. Ent.* 565. 34.—*Spec. Inf.* 2. n. 50. p. 178.—*Mant. Inf. T.* 2. n. 53. p. 113.

Phalæna alis lineis albis et nigris undatis. *Gadd. Satag.* 82:

Roef. Inf. 3. tab. 39. fig. 3.

Sulzer Hist. Inf. tab. 21. fig. 4.

Fuesl. Magaz. 2 tab. 1. fig. 4.

Der Buntflügel. Der Hagebuchenspinner.

Das Männchen. *La Versicolore.* (Male.)

Das Weibchen. (Female.) *Panz. Faun. Inf. German.*

This extremely rare Insect is always considered as a British species, and is usually found in the cabinet of the English entomologist; yet those are German Insects generally, for we know only of one specimen which is clearly ascertained to have been found in this country. The specimen alluded to is in the collection of Mr. Francillon, jeweller, in Newcastle-street, in the Strand: it is a female, and was found by that gentleman's brother in his garden at Carshalton.

Whether Harris ever met with this Insect we cannot pretend to determine; he says it appears in the winged state in April*. We cannot hesitate to suppose, that this Moth has been found in England several times, particularly in *Kent*; but none of these remain at this period in the collections of the curious.

The Male differs much from the Female: it is rather smaller, with the colours and markings uniformly darker, and has the posterior wings orange instead of greyish as in the female; both sexes are shewn in the annexed plate. Fig. I. Male. Fig. II. Female.

* *Vide Aurelian's Companion.*

Fuesly, in a German publication, has given the only figure we are acquainted with of the Caterpillar of this Moth; and *Fabricius* has copied his description from the coloured engraving. It is green, with oblique lines of yellowish brown, and large spots of golden yellow:





P L A T E CCCXXVIII.

P H A L Æ N A F A G I.

LOBSTER MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Wings reversed, reddish ash colour, with two incurvated yellowish lines across the first pair.

P H A L Æ N A F A G I : alis reversis rufo cinereis : fasciis duabus lineari-
bus luteis flexuosis. *Linn. Syst. Nat.* 2. 816. 30.
— *Fn. Sv.* 113. — *Fab. Ent. Syst. T.* 3. p. 1.
p. 422. *fp.* 51.
Albin. Inf. tab. 58.
Wien. Verz. 63. 2.
Roef. Inf. 3. *tab.* 12.
Act. holm. 1749. 132. *tab.* 4. *fig.* 10. 14.

The trivial name of Lobster Moth, which this species has acquired from the singular form of its larva, cannot be unfamiliar to the English Aurelian, though the Moth itself is in the possession of few. The larva
was

was figured and described by Albin, and collectors about the middle of the last century occasionally met with it in the woods near London, which have been since destroyed. At that time it was however scarce, and being difficult to rear, the Moth has always been deemed one of the most valuable British species of the Lepidoptera tribe.

An old collector at Hoxton once informed us, that the larva of this Insect was called the BREECHES Caterpillar about fifty years ago; that it was in great request by most collectors of his time, and that he deemed himself fortunate in finding two specimens of it in the course of his life, though he had not reared either. Those were taken on some Chestnut trees which grew at that time in St. George's fields. The late Mr. Bentley found it once on the Beech, and Mr. Francillon has a specimen of it in his cabinet, which he met with himself. Our figures are copied from Mr. Francillon's specimen, and the drawings Roefel has given of it in his History of the Insects of Germany.



P L A T E CCCLIX.

PHALÆNA TRITOPHUS.

ASPEN PROMINENT MOTH.

GENERIC CHARACTER:

Antennæ taper from the base : wings in general deflected when at rest. Fly by Night.

SPECIFIC CHARACTER.

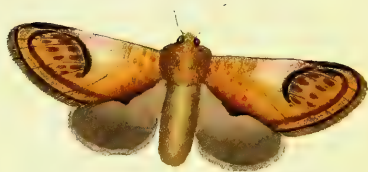
Wings deflected, with a prominent tuft or tooth on the posterior margin ; colour brown, clouded, with a ferruginous lunar mark surrounded by a white ring in the middle.

PHALÆNA TRITOPHUS : alis deflexis dorso dentatis fusco nebulosis : lunula media ferruginea alba cincta. *Fab.*
Ent. Syst. T. 3. p. 1. p. 44². sp. 108.

The larva of this fine Insect is green, with a brown head, obtuse tail, and three elevations or gibbosities on the back. It feeds on the *Populo tremulo*, from whence we have deduced its English name of Aspen Prominent Moth.

Phalæna tritophus is extremely scarce in this country.





P L A T E CXIX.

P H A L Æ N A Z I C Z A C.

PEBBLE PROMINENT MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

S P E C I F I C C H A R A C T E R,

A N D

S Y N O N Y M S.

Brown and white clouded like an Agate; a large clouded Eye, next to the exterior margin of the first Wings; on the interior margin a tuft, or appendage. Antennæ feathered.

P H A L Æ N A Z I C Z A C. B. Alis deflexis dorso dentatis apicibusque macula grisea subocellari, antennis squamatis.

Syst. Ent. 573. 35. *Linn. Syst. Nat.* 2.827.

61.—*Fn. Sv.* 1116.

Geoff. Inf. 2. 124. 29.

Merian. Europ. tab. 147.

Frisch. Inf. 3. tab. 1. fig. 2.

Degeer Inf. 1. tab. 6. fig. 1. 10.

Reaum. Inf. 2. tab. 22. fig. 9—16.

Fab. Spec. Inf. 2. p. 186. 76.

This singular and beautiful Caterpillar is found on the Willow, early in *June*; it becomes a Pupa within a fine, brownish web, which it spins between two or three leaves, (as represented in our Plate,) late in the same month; the Moth comes forth in *August*.

The trivial name prominent has been given to this Insect, because when the Moth is at rest the remarkable appendages on the interior margin of the upper Wings form a prominent tuft above the back; we have six different species of *Phalæna* in this country which have the same character, and are known among Collectors by the several names, Pale, Maple, Swallow, Iron, Pebble, and Cockscorn, Prominents; the last is common, the rest are generally very rare.



P L A T E CLXXXIII.

PHALÆNA CAMELINA.

DARK PROMINENT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings brown, with two oblique waves across: two tufts on the back, formed by teeth on the wings.

PHALÆNA CAMELINA: alis deflexis denticulatis brunneis: omnibus denticulo dorsali. *Linn. Syst. Nat.* 2. 832. 80.—*Fn. Sv.* 1145.

Fab. Ent. Syst. 3. p. 450. 133.

Wien. Verz. 63, 3.

Roef. Inf. 1. *phal.* 2. *tab.* 28.

The Caterpillar of this Moth is found in August, on the leaves of the Oak, Willow, Lime, &c. The Moth comes forth late in May, or early in June.



P L A T E CCXXXIX.

FIG. I.

PHALÆNA TREPIDA?

SWALLOW PROMINENT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base; wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings deflected with a single tooth on the back: anterior wings pale in the middle, brown next the margin, and streaked: a spot in the centre of the wing.

BOMBYX TREPIDA: alis deflexis dorso unidentatis: puncto medio ocellari strigaeque postica maculari fuscis. *Fab. Ent. Syst. 3. p. 1. 449. 130?*

Bombyx tremula. *Wien. Verz. 49. 4.*

The Swallow Prominent Moth is scarce, the larva is supposed to live under the bark of Willows, but it is more certain that the Moth is seldom found, except among those trees. In the day-time it has been seen against the trunk of trees, in the manner represented in the Plate.

We quote the authority of Fabricius with diffidence; his character is ambiguous; and cannot be positively defined by the very general description he has added to it.

FIG.

FIG. II.

PHALÆNA COMPRESSA

LEPIDOPTERA:

BOMBYX.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings compressed, white, in the middle grey, with a large common brown mark, and white lunule.

BOMBYX COMPRESSA: alis compresso adscendentibus niveis: macula communi fusca, centrali grisea: lunula alba,
Fab. Ent. Syst. 3. p. 2. 455. 149.

Phalæna spinula. *Wien. Verz.* 64. 6.

Panz. Faun. Germ. 1. tab. 6.

Not very uncommon in the month of June; it is called the Goose-egg Moth.



P L A T E CCCL.

F I G. I.

P H A L Æ N A D R O M E D A R I U S.

IRON PROMINENT MOTH.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Wings deflexed, clouded, a large tufted dentation at the posterior margin: base yellowish.

P H A L Æ N A D R O M E D A R I U S : alis deflexis : anticis nebulosis dorso dentatis : litura baseos anique flavescens.
Linn. Syst. Nat. 2. 827. 62.—*Fab. Ent. Syst.*
T. 3. p. 1. p. 444. sp. 113.
Ammiral. Inf. tab. 14.

F I G. II.

P H A L Æ N A C H R Y S O G L O S S A.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Thorax crested. First wings somewhat falcated or hooked, greyish, with three streaks, and two kidney-shaped spots in the middle.

PHALÆNA CHRYSOGLOSSA : spirilinguis cristata, alis superioribus griseis subfalcatis strigis tribus albis primoribus abbreviatis. *Linn. Transf. Vol. 2. 1. p. 6.*

One of the rare species of *Phalænæ*, described by the late Mr. Beckwith in the Linnæan transactions. The larva is remarkably slender, and of a green colour; it was found upon the fallow near Brent-Wood on the 18th of June, went into the earth about a week after, and the Moth was produced on the 24th of July.

FIG. III.

PHALÆNA RUBRICOLLIS.

RED-NECKED MOTH.

SPECIFIC CHARACTER.

Blackish, collar crimson: end of the abdomen yellow.

PHALÆNA RUBRICOLLIS : atra, collari fanguineo, abdomine flavo.
Linn. a Gmel. T. 1. p. 4. p. 2446. sp. 113.
Schæff. Icon. t. 59. f. 8. 9.

This singular creature was found in Coombe Wood in the month of June. The larva is hairy, dark, striped with black, and has a white triangular mark on the head. It feeds on the pine, beech, &c.





P L A T E C C C X X X V I I I .

F I G . I .

P H A L Æ N A C U C U L L A .

M A P L E P R O M I N E N T M O T H .

G E N E R I C C H A R A C T E R .

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R .

Tongue spiral : thorax crested : wings deflected : margin denticulated, yellow brown clouded with ferruginous and marked obliquely with several interrupted parallel and interwoven waved streaks. A broad white band next the exterior margin.

P H A L Æ N A C U C U L L A : spirilinguis, cristata alis deflexis denticulatis ochraceis maculis ferrugineis, fasciaque marginali albida striis intertexta fuscis. *Linn. Syst. Nat.* 81.

This species is uncommonly rare, and has not, we believe, been figured by any author, unless *fig. 1. tab. 71. of Esper* is intended for the same insect.—It feeds on the maple.

F I G .

FIG. II.

PHALÆNA RUBAGO.

SPECIFIC CHARACTER.

Anterior wings yellow : base, costal spot, and oblique broad bar, near the apex reddish, sprinkled with points of ferruginous.

PHALÆNA RUBAGO : alis anticis flavis : basi macula costali, fascia lata obliqua punctisque ferrugineis.

A new and undescribed British species. Once found in the wood at Hornsey.

FIG. III.

PHALÆNA PAR.

KITTEN-LIKENESS MOTH.

SPECIFIC CHARACTER.

Anterior wings greyish white, with a broad clouded bar across the middle : posterior wings darkest near the exterior margin.

PHALÆNA PAR : alis anticis griseo-albidis : fascia lata nebulosa, posticis extus fuscentibus. *Marsh. Mss.*

Sometimes found flicking against walls and trunks of trees, and is certainly an hitherto undescribed species.



THE
NATURAL HISTORY
OF
BRITISH INSECTS.

PLATE CCCXCVII.

FIG. I.

PHALÆNA ZEBU.

ZEBU, PROMINENT.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base to the tip : wings in general deflected when at rest. Fly by night.

BOMBYX.

SPECIFIC CHARACTER

AND

SYNONYMS.

BOMBYX ZEBU. Wings deflected : back single toothed : thorax rufous : anterior wings pale rufous and fulvous varied, with two obsolete denticulate yellowish bands.

LE CHAMEAU. Chenille du Tremble, *var. e. f. Ernst. Fig.*
267.

BOMBYX DROMEDARIUS. Small iron prominent. *Haworth.*
Lep. Brit. p. 101. n. 29.

Our Zebu Prominent, or, as the Aurelians call it, the small Iron Prominent, is extremely scarce. It was discovered in the larva state upon the oak : in the month of September it went into the ground and became a pupa; the moth appeared in June following.

This insect differs from the Fabrician Bombyx Dromedarius, or what is termed with us the *Iron Prominent* in several respects, though at the first view it seems to bear a very strong resemblance to that species. We object to the trivial English name of small Iron Prominent, because it is only applicable, in a partial degree, to the insect. Our Zebu Prominent is certainly smaller than the insect known in this country by the name of Iron Prominent, but this is not invariably the case. We have seen the male of the Iron Prominent of a size nearly, if not entirely, as diminutive as our specimens of the Zebu Prominent; and if we may rely on the accuracy of the figures of the latter in the works of Ernst, the Bombyx Dromedarius is not an insect of much superior magnitude. We may truly infer from the figures above mentioned, that the diminutive size of our Zebu is no criterion of the species.

A decided difference in point of colour, and in some other particulars, prevails between the two insects. In Bombyx Dromedarius the colour of the superior wings is fuscous most delicately speckled, as it appears on close inspection, with grey; the spots of a deep rusty-iron colour, and the denticulated bands across the wings whitish,
distinct

distinct, and well relieved with fuscous, and ferruginous. In our insect the general colour is pale rufous slightly tinged with fuscous in the area of the wing, and varied towards the circumference with deep fulvous: the denticulated bands across are disposed in a similar manner to those on the wings of *Bombyx Dromedarius*, but are of a yellowish instead of whitish colour, and nearly obsolete. So far as our own observation extends there is a difference also in the posterior wings: in our *Bombyx Zebu* those wings are of a very pale fuscous with only a single fainter band; in *Bombyx Dromedarius* the wings are paler still; it has likewise a similar band, but which is rather more denticulated, and being bounded both above and below with a dusky band, the wings appear of a lighter colour next the posterior margin, and in the disk of the wing; the latter part has also a single short transverse dash of a dusky colour. A further difference is observable in the lower surface: the general tint in our *B. Zebu* is pale ferruginous; in *B. Dromedarius* greyish, with the lower pair whitish, and in both, the bands conspicuous: the tip of the anterior pair in *B. Zebu* testaceo-fuscous, in *B. Dromedarius* distinctly grey; and the central spot in the lower wings of the latter fuscous with a white speck in the center, but in *B. Zebu* plain testaceous without any central mark.

In the "*Lepidoptera Britannica*," Mr. Haworth describes our *Bombyx Zebu* as a species perfectly new, under the name of *Bombyx Dromedarulus*. The specimens from which his description is taken were those in the cabinet of Mr. Drury, and which are now in our possession. This insect was probably new to the Aurelians of this country, but certainly not so to the continental entomologists, and those should assuredly have been consulted previously to its being described as a nondescript insect. In the works of Ernst which this ingenious writer has overlooked, will be found a figure both of the upper and lower surface of the insect from a larger specimen than our own, and tolerably expressive; and with a description of the insect equally satisfactory. It appears from thence that the figures are copied by Ernst from a female specimen in the noble collection of M. Gerning, of Frankfort, which

which contains besides the male of the same insect. Ernst is evidently in doubt whether to consider it as a variety of the *Bombyx Dromedarius* differing only from that insect in the gradations of colour, or as a distinct species; this he leaves for time and future researches to determine. He observes, however, and it is a strong argument in favour of its being distinct, that the males in M. Gerning's collection, are of the same colour as the female he represents, and the like circumstance is exemplified in our specimens*.

The variety fig. 1. of the *B. Tritophus* of Esper appears to be of the same species as our *B. Zebu*, but of this we cannot speak with confidence. Schneider certainly notices it. Fabricius probably considered it as a variety of *B. Dromedarius*.

FIG. II.

PHALÆNA CASSINIA.

TRILINEATED MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings deflected, grey with abbreviated scattered black lines: thorax with a black line each side, and in the middle.

* "M. Gerning qui possède dans sa collection l'individu femelle dont nous donnons le portrait en dessus et en dessous, fig. 267. e, f, le croit une variété de cette espèce, malgré la différence que l'on y remarque dans les nuances. Cependant comme il a des mâles de la même couleur, il n'ose assurer que ce ne soit point une espèce différente. Le temps seul et les recherches peuvent nos en rendre certain." *Ernst*.

BOMBYX CASSINIA: alis deflexis griseis: lineolis abbreviatis nigris
 sparfis. *Fabr. Ent. Syst. T. 3. p. I. 460. n. 164.*
B. CASSINIUS. SPRAWLER. *Haw. Lep. Brit. p. 106. n. 40?*

Fabricius describes his *Bombyx Cassinia* as a native of Austria from the cabinet of Schieffermüller. It is found on the Lime. If this be of the same species as the *B. Cassinius* above quoted, it is also found in the larva state on the oak, and appears in the winged state in September.

This insect, considered as a British species, is almost equally as scarce as the preceding, *Bombyx Zebu*.

FIG. III.

NOCTUA AURICULA.

GOLDEN EAR MOTH.

SPECIFIC CHARACTER

AND

SYNONYMS.

NOCTUA AURICULA. Anterior wings sub-ferruginous with a small fulvous spot, and in the middle a larger ear-shaped yellow spot enclosing a lunar ring.

L'ECLATANTE. *Ernst. II. part. v. 6. n. 394.*

This

This insect has been erroneously considered by Esper and others as the *Phalæna nictitans* of Linnaeus, an insect which it pretty much resembles, but from which it differs specifically. This circumstance is mentioned particularly by Ernst, who describes and figures both the Linnaean species, and the insect mistaken for it. The specimens he delineates are in the cabinet of M. Gerning of Frankfort. Ernst describes our insect as a scarce species in Germany: in England we believe it is very rare; the only specimen we possess is in the cabinet of Mr. Drury.



PLATE III.

PHALÆNA BUCEPHALA.

BUFF-TIP MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS

Anterior wings cinereous, with two ferruginous streaks, and a large yellow spot at the end.

PHALÆNÆ BUCEPHALA: alis cinereis: strigis duabus ferrugineis maculaque terminali magna flava. *Lin. Fn. Suec.* 1115.

The delicate assemblage of beautiful down which clothe the upper wings of the Buff-tip Moth is its chief recommendation; the history affords

affords but little for observation, it is hatched from the egg in *August*, and in *June* following the fly appears in the winged state.

The Caterpillar is yellow varied with specks, and spots of black, and orange, and is somewhat hairy : it feeds on the oak and ash.



P L A T E CXXIV.

PHALÆNA ANOSTOMOSIS.

SCARCE CHOCOLATE-TIP MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

B O M B Y X.

Antennæ feathered.

SPECIFIC CHARACTER.

First wings greyish, with three tranverse stripes of dull white. Apex fine chocolate colour. Second wings and body pale brown.

PHALÆNA ANOSTOMOSIS. B. alis deflexis griseis, strigis tribus albidis subanastomosantibus, thorace ferruginato. *Fab. Spec. Inf.* 2. 189. 85.

Linn. Syst. Nat. 2. 824. 53.

Fn. Sv. 1124.

Goed. Inf. 1. tab. 33.

A very rare species of *Phalæna*. In the perfect state it is seldom met with; and in the Caterpillar state few Collectors are acquainted with its haunts. It feeds on the fallow, willow, and poplar, and may be found sometimes by stripping off the bark of those trees.

H

Our

Our specimen was taken in the vicinity of Oak-of-Honor Hill, Surry. The Caterpillar was met with when it was ready to spin its web, in which state it is represented; its spinning was formed between the folds of a leaf in the month of October, the Moth came forth in May.

The Moth in the upper part of the plate is a small specimen of the female; it differs very little from the male, except that the antennæ of the latter is much feathered, as is shewn on the back of the leaf.

The species is more plentiful on the continent of Europe, and a variety of it is a native of some parts of North America.

A Collector of Insects in London met with a brood of this species last September, in the Caterpillar state, containing more than twenty; some were covered with a milk-white down, others inclining to grey, but in general they were like the specimen given in our plate. They changed their appearance frequently, and some were much larger than the rest. The Moths also differ very much both in size and colour; some are dingy, others have the chocolate colour much diffused; and in general, when the Insect is perfect, it is beautifully varied with a pale bloom of a purple hue.



P L A T E LXXXV.

P H A L Æ N A V I N U L A.

P U S S M O T H.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

S P E C I F I C C H A R A C T E R.

Antennæ feathered. Wings grey, streaked and waved with dull black; somewhat diaphanous. Thorax and Abdomen grey spotted with black.

Linn. Syst. Nat. 2. 815. 29.—*Fn. Sv.* 1112.

Geoff. Inf. 2. 104. 5.

Raj. Inf. 153. 5.

Geod. Inf. 1. *Tab.* 65.

2. *Tab.* 37.

Merian, Europ. Tab. 39. *Fig.* 140.

Albin. Inf. 11. *Tab.* 5.

Sepp. Inf. 4. *Tab.* 5.

Wilk. pap. Tab. 13. *Fig.* 1. e. 1.

Reaum Inf. 2. *Tab.* 21.

Frisch. Inf. 6. *Tab.* 8.

Degeer. Inf. 1. *Tab.* 23. *Fig.* 12.

Roef. Inf. 1. *phal.* 2. *Tab.* 19.

Fab. Spec. Inf. 2. 178. 52.

The Puss Moth appears in the winged state about the latter end of May, or early in June.

The Caterpillar, from which it is produced, is of a very extraordinary form, and has rather the appearance of a formidable or venomous creature, than the larva of a Moth : it feeds on Willows and Poplars, and is generally found in great plenty where those trees grow, in the month of *July*. The two tails, or crimson filaments at the extremity of the body, are protruded or concealed within their base at the creature's pleasure ; when protruded they have a continual writhing or vibratory motion.

It passes to the Pupa state in *August*.



P L A T E CCLXXII.

PHALÆNA FURCULA.

KITTEN MOTH.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

BOMBYX.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax variegated : anterior wings grey, sprinkled with black : base and apex white, with black spots : posterior wings white, with a marginal row of black points.

PHALÆNA FURCULA : thorace variegato, alis griseis basi apiceque albis nigro punctatis. *Linn. Syst. Nat.* 2. 823. 51.—*Fn. Sv.* 1122.—*Fab. Ent. Syst. T.* 3. p. 1. 475. *fp.* 213. *Panz. Faun. Inf. Germ.* 4. tab. 20. *Wilks pap.* 13. tab. 1. fig. 1. *Sepp. Inf.* 4. 29. tab. 6.

Phalæna Furcula is a neat and interesting British Insect. Except in size it is very similar to Phalæna Vinula ; and the Aurelians, from this similarity, and a fanciful reference to the brindled appearance of

of the anterior wings have whimsically given it the name of kitten-moth. *Phalæna Vinula* is called the puffs-moth. Our present insect is rare, the other very common.

The larva is found on the willow in July. It remains in the pupa state the whole winter : the Moth comes forth in May.



P L A T E X V .

P H A L Æ N A C A J A .

G R E A T T Y G E R M O T H .

L E P I D O P T E R A .

G E N E R I C C H A R A C T E R .

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Wings fuscous, intersected with rivulets of white: posterior pair red with black spots.

PHALÆNA CAJA : alis fuscis : rivulis albis, posteris purpureis nigro punctatis. *Linn. Fn.*

Succ. 1. p. 820. 2. n. 1131.

Fabr. Sp. Inf. 2. p. 198. n. 122.

Gmel. T. 1. p. 5. 2410. sp. 38.

The superior wings in some examples of this species are marked with spots of brown, much smaller in size than those depicted in the present insect: the spots in others are also occasionally larger, and vary in being more or less confluent or united; the rivulet intersecting waves

waves of white or cream colour are more or less conspicuous in different specimens. The lower wings admit likewise of material variation in the number as well as magnitude of the black spots; in having more or less of the blue subocellated space in the center; or in being encircled by a narrow yellow border, an appearance it sometimes, though rather rarely, exhibits.

The Caterpillar is often found in gardens, and feeds on the lettuce, nettle, &c. When apprehensive of danger it rolls itself up like a hedgehog. In May it becomes a pupa, and the latter end of June or early in July the Moth is produced.



P L A T E LXXI.

P H A L Æ N A V I L L I C A.

CREAM-SPOT TYGER MOTH.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general contracted when at rest. Fly by night.

* No Trunk. Wings depressed, deflexed. Back smooth.

S P E C I F I C C H A R A C T E R.

Antennæ, head, and thorax black, with a white spot on each side the latter. First wings black, with eight large cream-coloured spots. Second wings and body orange, with black spots.

Syst. Ent. 2. 581. 85.

Linn. Syst. Nat. 2. 820. 41.

Geoff. Inf. 2. 106. 1.

Harris. Aurel. Tab. 4.

Raj. Inf. 156. 4.

Alb. Inf. Tab. 21.

Frisch. Inf. 10. *Tab.* 2.

Reaum. Inf. 1. *Tab.* 31. *Fig.* 4. 6.

Roes. Inf. 4. *Tab.* 28. *Fig.* 2.

———— *Tab.* 29. *Fig.* 1. 4.

Wilk. Pap. Tab. 3. a. 2.

Chickweed is a favorite food with the Caterpillars of this Insect, but it will eat the leaves of the currant, white-thorn, nettle, grass, &c. if the former cannot be readily procured.

The Caterpillars are black and foxy, or hairy; but in a less degree than the Caterpillars of Ph. Caja, Great Tyger Moth, which we have figured in the early part of this work.

About the latter end of April the Caterpillars have attained their full size, and change into chrysalis; late in May they appear in the winged state.

It is by no means so frequent as the Great Tyger Moth, though not very rare; but it is infinitely superior for the happy combination of its colours to it, or either of the British species of that tribe which are trivially termed Tygers: it is already high in the esteem of collectors; and were specimens of the kind less common, it would be in great request among the English Entomologists.

Frequents banks which face the rising sun.



P L A T E CCXIV.

PHALÆNA RUSSULA.

CLOUDED BUFF MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base; wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings deflected; yellow; margin fanguineous with fuscous lunule; antennæ red.

PHALÆNA RUSSULA: alis deflexis luteis: margine fanguineo lunulaque fusca, antennis fanguineis.—*Fab. Ent. Syst. I. 3. p. 1. 180.*—*Linn. Syst. Nat. 2. 830. 71.*
Schæff. Icon. tab. 83. fig. 4, 5.
Clerk. Icon. tab. 4. fig. 1.
Raj. Inf. 228. 75.

As the Phalænæ are not remarkable for a variety of gay colours, like those of the Papilio genus, an exception to a general rule in the beautiful species before us, more strongly demands our notice. The male Phalæna Russula, which is known by the pectinated antennæ, is of a fine golden yellow, with a rich, though narrow marginal band of fanguineous red round the wings. The female is a pretty Insect, but is more inclined to brown throughout than the male.

This species has been supposed to feed on grafs in the larva state, but as collectors have very rarely reared it from that state, it has been difficult to determine its proper food. Fabricius mentions lettuce and scabious or devil's-bit. The larva is hairy, and in many respects very much resembles that of the Garden Tiger Moth, from which we may perhaps infer that it is what collectors usually term a general feeder.

We found the larva in May; shortly after it spun a web and passed into the pupa state, from which the moth was produced the 11th of June following.



PLATE X.

PHALÆNA AURIFLUA.

YELLOW TAIL MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

White ; extremity of the abdomen yellow.

BOMBYX AURIFLUA : alis albis : primoribus subtus costa fusca
ano barbato luteo. *Fabr. Mant. Inf. 2. p. 125.*
n. 145.

PHALÆNA (*Bombyx*) CHRYSORRHŒA. *Linn. Syst. Nat.*

Linnæus confounded the Yellow Tail Moth, with another kind known among collectors of English Insects by the name of the Brown Tail Moth ; an insect which it may be recollected appeared in such prodigious numbers in the year 1780, as to spread the utmost consternation throughout the vicinity of the Metropolis ; the credulous believing them to be the certain prelude of a famine :—The larvæ of

this last mentioned insect were collected during that period, at the expense of the respective parishes where they appeared most numerous, and were publicly burnt by order of the magistrates.—The Yellow Tail Moth is allied in some degree to the Brown Tail Moth, though evidently distinct.

The Yellow Tail Moth is found in the month of July, feeding on the white-thorn, fallow, apple, and some other fruit trees. About the latter end of the same month, it spins a web of tough texture against the branches of trees, in which it changes to the pupa state, and the Fly comes forth in August.



PLATE XXX.

PHALÆNA SALICIS.

WHITE SATIN MOTH.

GENERIC CHARACTER.

Antennæ tapering from the base : wings in general deflected when at rest. Fly by night.

* *Bombyx*.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings white : legs black, with white rings.

PHALÆNA SALICIS : alis albis, pedibus nigro albo annulatis. *Linn. Fn. Suec.* 1. p. 822. 2. n. 1129.—*It. Scan.* 167. 307.—*Scop. Ent. Carn.* 495. *Fabr. Sp. Inf.* 2. p. 193. n. 103.—*Mant. Inf.* 2. p. 126. *Gmel. Linn. Syst. Nat.* 2423. 46.

Very numerous about London, and are often found in the state of larva, pupa, and moth at the same time, as there are more than one, or perhaps even two broods in the year. Commonly the larva changes to the pupa form in June, and the Fly appears in July.

The species feeds principally on the Willow, Osier, and Poplar.



PLATE CCCLXXXVIII.

PHALÆNA MENDICA.

SPOTTED MUSLIN MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ gradually tapering from the base to the tip : tongue spiral : wings in general deflected when at rest. Fly by night.

* *Bombyx*.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings of the male brown and obscure : those of the female, white and pellucid, both dotted with black.

PHALÆNA MENDICA : alis deflexis nigro punctatis, femoribus anticis luteis. *Linn. Syst. Nat.* 2. 822. 47.—*Gmel. Linn. Syst. Nat.* 2423. n. 47.

PHALÆNA MENDICA. *Fabr. Ent. Syst.* 3. 452. n. 139. Mas cinero fuscus, fœmina albida punctis aliquot nigris. Femora antica barba lutea. Abdomen concolor. *ibid.*

PHALÆNA MENDICA. *Marsh. in Linn. Transf. T.* 1. p. 72.

The spotted Muslin Moth is one of our rarest species of *Phalæna* in this country. The larva feeds securely from the intrusion of the Entomologist in marshes and watery places, subsisting entirely on aquatic plants, and is therefore scarcely even met with, except in the winged state, which it assumes in May. The dissimilarity between the two sexes of this species is altogether so very remarkable, that it is only from an intimate acquaintance with the manners of the two insects in a state of nature, or the concurrent testimony of many observers, that we could be induced to believe them both of the same species.

Fabricius, and Gmelin after him, says, the larva is greenish, hairy, with whirls of black dots, and yellowish head. The figures in Esper, *T.* 3. pl. 42, represent the larva of a cinereous colour, verticillated with black dots, and tufts of ferruginous hairs. Other writers speak of the head and tail being red. Those different descriptions may be easily, however, reconciled by presuming those authors had each noticed the larvæ at different periods of growth, or perhaps this dissimilarity may serve to point out the difference between the two sexes, even in the larva state.



PLATE DLV.

PHALÆNA PHÆORRHŒA.

BROWN TAIL MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

White: rays of the antennæ ferruginous: abdomen bearded and fuscous at the end.

PHALÆNA CHRYSORRHŒA. *var. Linn.?*

BROWN-TAIL MOTH. *Curtis Hist. Brown-tail, A. D. 1782.*

PHALÆNA PHÆORRHŒA. *Marsh. Linn. Transf. V. 1. p. 68.*

In the description of the 10th plate of this work we had occasion to allude, in general terms, to an oversight committed by Linnæus in confounding the Yellow and Brown tail Moths under the same name

as a single species: the subject represented in that plate is the Yellow-tail, and the present seems requisite to complete the history of those two apparently ambiguous insects.

There is a dissimilarity, and that so considerable, between those two insects, though at the first view they may appear analogous, that, after due comparison, it must excite surprize to learn they could have been esteemed the same by any competent Naturalist; yet they certainly were, and not by Linnæus only; nor do they seem, even at this moment, to be very accurately defined as distinct kinds by the generality of continental writers, some considering them as varieties, and others as the two sexes of an individual species. Klemann is an exception among those writers; he admits them to be distinct on the authority of Roefel, by whom both kinds were reared from the larvæ.

Besides those two moths, there is another more closely allied to the Yellow-tail than the Brown-tail, which has excited some misunderstanding; this is the insect called by English collectors the "Spotted Yellow-tail," as it differs from the former in having a large brown shade along the costal margin beneath, and on the upper surface one or more obscure dots. Fabricius, whose opinion is countenanced by the authority of Villars and Schaeffer, describes it as a distinct species, under the name of *Auriflua*, and this opinion is repeated in the work of Gmelin: our English collectors regard it, and not without probability, as a sexual difference of the common Yellow-tail: we are persuaded it is no other than the male of that species;—the male of the Brown-tail Moth, we may further add, exhibits a similar appearance beneath.

The history of the Brown-tail Moth is amply related in a little tract published about thirty years ago by the late Mr. W. Curtis, author of the *Flora Londinensis*. The occasion upon which that tract was written is slightly mentioned in our description of the "Yellow-tail," and may now with propriety be repeated at greater length. The period of time elapsed since the appearance of Mr. Curtis's publication is not considerable; yet, from the various vicissitudes to which such a memorial of local events is necessarily exposed, this interesting
pamphlet

pamphlet is now become scarce : we fortunately possess it, and feeling persuaded the information it conveys must prove acceptable to the reader, shall not neglect to introduce the most material passages for their perusal.

It will be within the recollection of many, that in the year 1782 the inhabitants of London and its vicinity were thrown into the utmost consternation by the appearance of a phænomenon far from usual in the northern regions of the earth; a host of insects, in numbers like the locusts of the deserts, were observed at once to pervade the whole face of vegetation and despoil the herbage in many places for miles of every trace of verdure:—these were no other than the larvæ of an insignificant Moth, the subject of our present Plate.

The ravages committed by this insect were assuredly less considerable than the vulgar were inclined to believe: true to their natural instinct, some particular vegetables were preferred to others, and these they devoured with impunity, while others were only partially attacked, as though eaten with reluctance in the general scarcity of their natural food; and again, others being still less palatable, entirely escaped their devastation. The aspect of vegetation was nevertheless such as might justly create alarm: plants, hedges, nay, whole plantations of fruit-trees, as well as trees of the forest, shared in the general havoc, presenting their leafless branches in the midst of summer, as though stricken and destroyed by the blasts of winter. An appearance so extraordinary was calculated to create terror: it was naturally interpreted as a visitation from heaven ordained to destroy all the sources of vegetable life, to deprive men and cattle of their most essential food, and finally leave them a prey to famine.—Such were the vulgar fears; but thanks to Providence, the destroying powers of these creatures were restricted by their instincts; their attacks were principally directed against the oak, the elm, the hawthorn, and fruit-trees: the fodder for the cattle and the harvest for mankind remained untouched. The appearance of such a host of little depredators seems, however, to have afforded a seasonable admonition, evincing to an unthinking

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multitude how easily the comforts, nay, even the very existence of man may be assailed by a creature so insignificant, had not the limits of its ravages been prescribed by Him “who wills and is obeyed;”—its intrusions certainly created alarm, but did little serious injury.

This is no exaggerated picture of the public mind on the occasion to which we refer; its alarm was so powerful, and prevailed to such an extent, that prayers were publicly offered up in the churches to avert the calamity it was supposed they were intended to produce. The webs containing the larvæ were collected in many places about the metropolis by order of the parish officers, who allowed a certain price to the poor for gathering them, and superintended the burning of them in large heaps with coal and faggots, a circumstance within our own memory. At this precise period the tract by Mr. Curtis, as above related, appeared. In this memoir the history, manners, and propensities of this little creature were explained, and the information it afforded must have undoubtedly contributed in an essential manner to calm the terror before excited. Neither can we regard its publication as being devoid of utility in another material respect. It must surely have inclined the more reflecting part of the community, at least, to view the pursuits of the Entomologist, then confessedly in a state of infancy in this country, with higher esteem than it had been previously accustomed to consider them.

“The attention of the public (says Mr. Curtis) has of late been strongly excited by the unusual appearance of infinite numbers of large white webs, containing Caterpillars, conspicuous on almost every hedge, tree, and shrub in the vicinity of the metropolis; respecting which advertisements, paragraphs, letters, &c. almost without number, have appeared in the several newspapers, most of which, though written with a good intention, have tended greatly to alarm the minds of the people, especially the weak and the timid. Some of those writers have gone so far as to assert, that they were an unusual presage of the plague; others, that their numbers were great enough to render the air pestilential, and that they would mangle and destroy every kind of vegetable,

table, and starve the cattle in the fields. From these alarming misrepresentations, almost every one ignorant of their history has been under dismal apprehensions concerning them; and even prayers have been offered up in some churches to deliver us from the apprehended approaching calamity.”—“Some idea may be formed (says the same author in a note on the above passage) of their numbers from the following circumstances. In many parishes about London subscriptions have been opened, and the poor employed to cut off and collect the webs at one shilling per bushel, which had been burned under the inspection of the churchwardens, overseers, or beadles of the parish; at the first onset of this business, fourscore bushels, as I was most credibly informed, were collected in one day in the parish of Clapham.”

One object in writing this tract was to shew, that the insect was not new in this country, the species being found every year, and in some abundance, though not in plenty sufficient to excite the public attention. It was then known, as the author observes, by those who collected insects as the caterpillar of the Brown-tail Moth. Nor is it peculiar to this country, being found in many parts of Europe. Albin, who published in 1720, says, the caterpillars lay themselves up in webs all the winter, and as soon as the buds open they come forth and devour them in such a manner that whole trees, and sometimes hedges, for a great way together, are absolutely bare. Geoffroy describes it as the most common of all insects about Paris, where it is found on most of the trees, which it often strips entirely of their foliage in the spring. Our great naturalist Ray describes it likewise.

With respect to the caterpillars of the Brown-tail Moth in the year 1782, and also in the year preceding, Mr. Curtis observes, their numbers were uncommonly great and unusually extensive, though he does not pretend to state the precise track in which they are found, having had no opportunity of observing it, remarking only in this particular, that when insects are multiplied in this extraor-

dinary manner it is feldom that they extend through a whole country. “ On the Kingſton road I traced them (ſays this author) as far as Putney Common, on the farther part of which, on the trees about Coombe Wood and Richmond Park, a web was not to be ſeen. I remarked, that they were extremely numerous at the diſtance of about eight miles on the Uxbridge road. On the great weſtern road they terminated about the Star and Garter leading to Kew; from whence to Alton in Hampſhire not one was viſible; and I have received undoubted information from other quarters, that the deſtruction they occaſioned is by no means general.”

Our remarks on the partiality ſhewn by theſe inſects for ſome vegetables in preference to others will be eaſily perceived from the following ſtatement: during the ſeaſon mentioned (and in this they are invariably conſtant) they occurred on the *hawthorn* moſt plentifully, *oak* the ſame, *elm* very plentifully, *moſt fruit-trees* the ſame, *blackthorn* plentifully, *rose-trees* the ſame, and *bramble* the ſame: on the willow and poplar ſcarce, and none were noticed on the elder, the walnut, aſh, fir, or herbaceous plants. Thus it appears, that the principal injuries ſuſtained are in the orchard, the caterpillars deſtroying the bloſſoms as well as the leaves, and thereby the fruit in embryo; the loſs of the leaves merely in many other trees, ſhould it happen in the ſpring, being of ſmall importance, as theſe are reſtored before the end of ſummer.

Theſe caterpillars have happily many enemies; they are delectable food for moſt birds, who eagerly devour them; they are alſo victims to the Ichneumon fly, which deſtroyſ them by myriads, and it is ſuppoſed the abſence of the latter, from ſome unknown cauſe, might have contributed, for one or two ſeaſons, to their immenſe increaſe. The young caterpillars are hatched early in autumn. As ſoon as they quit the egg they begin ſpinning the web, and having formed a ſmall one, they proceed to feed on the foliage by eating, like moſt other larvæ, the upper ſurface and fleſhy part of the leaf. In theſe webs, which are progreſſively increaſed in ſize as neceſ-

sity requires, they live in societies till they attain their last skin, when each spins a separate web or cocoon for itself: in this it passes to the pupa form about the beginning of May, and after remaining a short time the Moth is produced *. There is more than one brood in a year, the species being found in a winged in July and August.

* It remains in the chrysalis about three weeks. *Curtis.*



PLATE DLXVIII.

PHALÆNA LUBRICIPEDA.

SPOTTED BUFF MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base : wings in general deflected when at rest : fly by night.

SPECIFIC CHARACTER

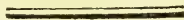
AND

SYNONYMS.

Wings yellowish, with black dots generally in an oblique transverse row.

PHALÆNA LUBRICIPEDA. *Marsh. Linn. Transf. T. 1. p. 71. tab. 1. fig. 2.*

BOMBYX LUBRICIPEDA. *Linn. Fn. Sv. 1133. mas. Fabr. Syst. Ent. 576. 68.*



The larva of this kind is hairy and brownish, with a lateral white stripe : it feeds on herbaceous plants, and is found in August. The fly appears in June.



PLATE DLXXI.

PHALÆNA PAPYRATIA.

WATER ERMINE-MOTH.

LEPIDOPTERA.

* *Bombyx*.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings snowy white with black dots at the tip: abdomen with five rows of black dots.

BOMBYX PAPYRATIA. *Marsh. Linn. Transf.* 1. p. 72. tab. 1. fig. 4.

Resembles the large or common Ermine Moth, and seems to have been very frequently confounded with that species till its specifical distinction was pointed out by our worthy friend Thomas Martham, Esq. in a memoir printed in the first volume of the Transactions of the Linnæan Society. It differs principally in having black dots at the tip of the wings only, except one or two reaching in a line towards

the base: the abdomen fulvous, and the tip white. In *P. Erminea* the black dots on the wings are more numerous.—We must, however, add, that, in some instances, the wings of *Bombyx papyratia* occurs with scarcely any black dots, The female has also, in general, fewer spots than the male.

This species in the larva state feeds on aquatic plants, and, as the trivial name implies, is usually found in watery places in the winged state. The larva is fuscous and hairy; pupa black.



PLATE CLXXXIX.

PHALÆNA MENTHRASTRI.

SPOTTED WHITE MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

Bombyx.

SPECIFIC CHARACTER

AND

SYNONYMS.

White with black spots: abdomen orange, with black spots.

PHALÆNA MENTHRASTRI: alis deflexis albis nigro subpunctatis, abdominis dorso fulvo nigro punctato, femoribus anticis luteis. *Tab. Ent. Syst. T. 3. p. 1. 452. 140.*

Bombyx Menthrastris. Wien. Verz 54. 2.—Roef. Inf. 1 Phal. 2. t. 46. Knoch. Beytr. 3. tab. 2. fig. 5. 12.

This Insect has been confounded with *Falæna lubricipeda* by Linnæus; he makes it the variety β after De Geer. In this he has been followed by many other authors; and though Roefel, by giving the larva and Pupa of each, in two distinct plates, evidently thought them different species, his observations had no weight with other Naturalists; even Fabricius, in his *Species Insectorum*, gives them
under

under one specific name. In his last work, *Entomologia Systematica*, he has divided them, leaving the *P. lubricipeda* under its former name, and giving the specific name *Menthrastris* to the white sort, as had been done in *Wien. Verz.* 54. 2. Fabricius mentions it as a native of Germany, but from the figure of Roefel no doubt can be entertained of its being precisely the same as our English species.

The Caterpillars of both sorts are very general feeders; they will eat oak, fruit trees, and wild plants of almost every kind. They are common in the summer, change to chrysalis about August, and appear in the winged state in May and June; but, there is more than one brood of them in the course of the year, so that the time of their appearance is uncertain. The Caterpillars change their skins often; and change their colours at the same time. Those of *Phalæna Menthrastris* when small are a very bright transparent brown: then brown with dark stripes. It is not black till it appears in the last skin; and then, in many, the colour inclines to brown.





P L A T E C X L I.

P H A L Æ N A D O M I N U L A.

S C A R L E T T I G E R M O T H.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings, in general contracted when at rest. Fly by night.

Bombyx antennæ of Male feathered, Female setaceous.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

First Wings black glossy green, with orange and white spots.
Second Wings and Abdomen scarlet, with black spots.

Phalæna Dominula: alis incumbentibus atris, maculis albo flavescens, posticis rubris nigro maculatis.

Fab. Syst. Ent. 583. 93.—*Spec. Inf.* 2. 200. 130.

Phalæna Dominula. *Noctua spirilinguis lævis*, alis depressis nigris: superioribus cæruleo flavo alboque, inferioribus rubro maculatis. *Linn. Syst. Nat.* 2. 509. 68 edit. 10.

Formerly this beautiful Moth was found in great abundance at *Charlton in Kent*, but within the last two or three years most of the broods

broods have been wantonly destroyed, and they are now seldom met with. In the caterpillar state they feed on nettles and hound's-tongue *, changes to the pupa state about the middle of May, and in June the Moth comes forth.

* *Cynoglossum officinale*.



P L A T E CXXXIV.

P H A L Æ N A P L A N T A G I N I S.

S M A L L T I G E R.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

Bombyx antennæ of the male pectinated or feathered.

S P E C I F I C C H A R A C T E R.

First Wings yellow, second Wings orange colour ; both clouded with black. Body orange and black.

P H A L Æ N A P L A N T A G I N I S elinguis. alis deflexis atris, rivulis flavis, inferioribus rubro maculatis. *Linn. Syst. Nat.* 2. 820. 42.—*Fn. Sv.* 1132.

P H A L Æ N A pectinicornis elinguis, alis deflexis, superioribus fuscis, maculis luteis, inferioribus rubris, maculis quatuor nigris. *Geof. Inf.* 2. 109. 10.

Phalæna Alpicola. *Scop. carn.* 507.
Wilk. pap. 24. tab. 3. a. 5.
Roef. Inf. 4. tab. 24.
Fab. spec. Inf. 2. 196. 115.

L'Ecaille brune. *Geofr.*

Der Wegerichspinner. Die spanische Fahne. Die beschleierte Bärenphalene. *Panf. Fauz. Inf. Germ.*

This species feeds on nettles, chickweed, plantain, grass, &c. The Caterpillars very much resemble those of the large *Garden Tiger* Moth*, except in size; they change into chrysalis about the middle of April, and appear in the winged state the latter end of May.

We have not found this Insect so plenty as the *Ruby Tiger* Moth†, and it is infinitely more scarce than the great *Garden Tiger* Moth, figured in the early part of this Work.

A variety of this species, with crimson under wings, is found in the East Indies and in America. The under wings of the female, in the European specimens, are much redder than in the male.

* Phal. Caja.

† Phal. Fuliginosa.





P L A T E LXXX.

P H A L Æ N A F U L I G I N O S A.

RUBY-TIGER MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings, in general, contracted when at rest. Fly by night.

* Spiral trunks; back smooth without crest.

S P E C I F I C C H A R A C T E R.

Superior wings red brown; a black dot near the center of each. Inferior wings, rose colour with black marks*. Abdomen, rose colour with a chain of black spots down the center, and a row of dots on each side.

Syst. Ent. 588. 111.

Linn. Syst. Nat. 2. 836. 95.—*Fn. Sv.* 1159.

Raj. Inf. 228. 13.

Harr. Aurel. Tab. 12.

— *Inf. Anglic. Tab.* 8. *Fig.* 7.

Ammir. Inf. Tab. 30.

Roef. Inf. 1. *Phal.* 2. *Tab.* 43.

Wilk. Pap. Tab. 3. *a.* 14.

* The black marks on the under wings of different specimens vary very much; in some the black occupies half the space of the wings; in others the rose colour is predominant.

The leaves of Alder or Birch, the Turnip, Mustard, and Ragwort, with many other vegetables, are noticed by different authors, as being proper food for the Ruby Tiger Moth in the larva state; I have observed that they prefer the leaves of the Ragwort or Groundsel.

The Caterpillars are small in the month of May, in June they pass to the pupa form, and early in the month following, appear in the winged state *.

This species is less frequent than the Cream Spot Tiger Moth †, lately figured in this work.

* In a forward season like the present, the time of their appearance in the different states may vary considerably, especially as some may have two, or even three broods in one summer. I have a Moth from a second brood, which passed to the pupa form the 25th of July, and came forth the 10th of August, 1794.

† *Pb. Villica.*



P L A T E X L V .

P H A L Æ N A J A C O B Æ Æ .

C I N N A B A R M O T H .

L E P I D O P T E R A .

G E N E R I C C H A R A C T E R .

P H A L Æ N A .

Spiral Trunk ; Back smooth, without Crest.

S P E C I F I C C H A R A C T E R .

Antennæ and body black. First Wings dark olive, with longitudinal red line near the anterior margin, and two red spots near the exterior. Second Wings red, with a black margin.—*Syst. Ent.* 588. 113.—*Linn. Syst. Nat.* 2. 839. 111.—*Fn. Sv.* 1155.

As the Rag-wort grows spontaneously in almost every part of the country, the yearly increase of the Cinnabar Moth Caterpillars is generally considerable ; and though many must inevitably perish before they arrive at perfection, the Fly may always be found in plenty in June, the Caterpillars in July and August.



PLATE CCCIX.

PHALÆNA CORYLI.

NUT-TREE TUSOCK MOTH.

GENERIC CHARACTER.

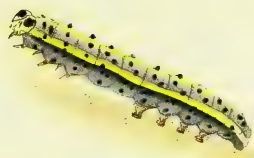
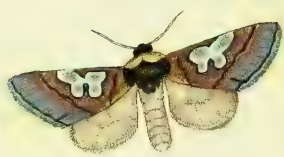
Antennæ taper from the base: wings in general deflected when at rest. Fly by night.

SPECIFIC CHARACTER.

Wings deflected, greyish: on the interior pair a broad ferruginous band marked in the middle with two black points encircled with white.

PHALÆNA CORYLI: alis deflexis glaucis: fascia ferruginea; puncto nigro albo annulato, thorace variegato.
Linn. Syst. Nat. 2. 823. 50.—*Fn. Sv.* 1123.—*Fab. Ent. Syst. T.* 3. p. 2. 444. *fp.* 114.
Degeer Inf. 1. tab. 18. fig. 4. 5.
Roef. Inf. 1. *phal.* 2. tab. 58.
Albin. Inf. tab. 90.

Found on the nut-tree in the larva state in May. Preparatory to its next change, the larva spins a fine web between the leaves in which it assumes the pupa form. The moth appears in July.



P L A T E C.

PHALÆNA CÆRULEOCEPHALA.

FIGURE OF EIGHT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base, Wings in general deflexed when at rest. Fly by night,

SPECIFIC CHARACTER.

Antennæ feathered. Superior wings brown, marbled with blueish green; the resemblance of a double figure of eight on each. Inferior wings lighter with a brownish scalloped margin.

PHALÆNA CÆRULEOCEPHALA elinguis cristata, alis deflexis griseis, stigmatibus albidis coadunatis.—*Linn. Syst. Nat.* 2. 826. 59.—*Fn. Sv.* 1117.

PHALÆNA pectinicornis elinguis, alis deflexis fuscis, macula duplici albo flavescente, geminata. *Geoff. Inf.* 2. 122. 27°

Raj. Inf. 163. 17.

Goed. Inf. 1. tab. 61.

Reaum. Inf. 1. tab. 18. fig. 6. 9.

Roes. Inf. 1. phal. 2. tab. 16.

Frisch. Inf. 10. tab. 3. fig. 4.

Merian. Europ. tab. 9.

Albin. Inf. tab. 13. fig. 17.

Wilks Pap. 6. tab. 1. a 12.

Haris. Aurel. pl. 30. a. b. c. d.

Fab. Spec. Inf. 2. 184. 72.

The Caterpillars of this species are found in their last skin about the latter end of May, or early in June; they change into chrysalis a few days after. The Moth is produced in August.

In the Caterpillar state they are met with in great plenty, either on the crab tree, black thorn, or white thorn; but are not so abundant in the last state, as many perish when in chrysalis.

They change into chrysalis within a hard case, which they fasten to the small stems of trees.



P L A T E LXXVI.

PHALÆNA FUNALIS.

FESTOON MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings, when at rest, generally contracted. Fly by night.

SPECIFIC CHARACTER.

Upper wings orange, rather inclining to brown; with a black line nearly of a triangular form on each; when the wings are expanded the lines resemble a festoon. Under wings orange, clouded and frosted with black; margin pale.



We are happy to present our Subscribers with the figure of a Moth which is scarcely known among the English Collectors, and we may venture to assert on the best authority has not a place in any cabinet of Insects in this metropolis, except that of the Author; indeed the only person who appears to have been so fortunate as to meet with it except himself, is Mr. Lewin, who formerly resided at Dartford; he considered it as such an invaluable rarity, that had not a figure of it been discovered in *Roefel*, it would no doubt have been published in the Transactions of the Linnæan Society; it must, however, be observed, that the Insect *Roefel* has figured is a foreign specimen.

On the communication of Mr. JONES, of *Chelsea*, we presume that this Insect was formerly known among the English Collectors, and received from them the appellation *Fesloon Moth*, but it must have been extremely rare even at that time, as it does not appear in Harris's List of English Moths, nor has a single specimen, or its remains, been found among the old Collections, which have been handed down to the Entomologists of the present day.

On the 16th of August, 1793, I shook the Caterpillar from one of the high branches of an oak-tree, in Darent wood, Kent; it remained motionless for some time when in the net, and I concluded that it might have sustained an injury by its fall; but I soon after discovered that it was naturally a sluggish, inactive creature, and had received no damage; it remained several days in the Caterpillar state, but as it was almost ready to change into Chrysalis, I had only an opportunity of being convinced that oak was its proper food.

This Caterpillar is a most singular creature; at one time it would flatten itself, and be considerably extended in breadth, or length; at another time it would gather itself up like an hedge-hog, or become almost round, and in a few minutes after it would be flat again; and frequently the orange colour on the back would be obliterated; sometimes it so nearly resembled the Caterpillars of several of the Papilio tribe, that I suspected it to be one of the *Hair-streak Butterflies*, or rather the Caterpillar of a new species. On the 23d of August it began to spin, and in a short time after its case was completed.

The case in which it passed to the Pupa state, was very firmly constructed, and precluded an opportunity of observing the different symptoms of change, which would otherwise have been visible. This case, which was exactly in the form of an egg, was at first of a pale flesh colour, but in the course of a few days it had heightened to a very fine sanguineous, and after to a scarlet, or nearly vermilion colour; this colour it retained for several months, but as the time for the emancipation of the Moth within approached, the brightness of
red

red somewhat abated, though even after the Fly came forth, much of the original colour remained.

The manner in which it bursts open the case is rather singular; it does not force an opening in an irregular form, as most Insects which spin a case, but describes an exact circle within at one end; after this it divides its case according to that circle, only leaving a small portion to act as an hinge; when it has extricated itself from the Chrysalis, it forces the top of the case back, as shown in our Figure, and thereby a free passage is opened for its delivery.

The inside of the case is perfectly smooth, and appears as if polished by art; it is of a pale blue colour, the Chrysalis within is brown.

The Fly came forth on the 12th of July, 1794.



P L A T E CCCXVI.

P H A L Æ N A G O N O N S T I G M A .

S C A R C E V A P O U R E R M O T H .

G E N E R I C C H A R A C T E R .

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Wings incumbent, brown. Two white spots on the first wings ; one placed on the anterior, and the other nearly opposite, on the posterior margin. Female without wings.

P H A L Æ N A G O N O N S T I G M A : acis incumben^tibus fuscis : maculis duabus albis oppositis, fœmina aptera. *Linn. Syst. Nat.* 2. 826. 57.—*Fab. Ent. Syst. T.* 3. p. 1. p. 477. *fp.* 217.
Roef. Inf. 1. *phal.* 2. *tab.* 40.
Albin. Inf. tab. 90.

The *Phalæna Gononstigma*, and *Phalæna Antiqua* are very similar both in the larva and winged state, as well as in the extraordinary appearance of the apterous female. Hence former collectors of English insects denominated them trivially the Scarce and Common Vapourer Moths. It is evident from those allusive names, that the latter

latter was more frequently taken than the other ; at this time *Phalæna Antiqua* is found very common, but the latter so rarely, that we never met with it, in the winged state, till this summer.

Once found the larva on an oak in Coombe Wood, Surry, but it died soon after.



P L A T E X V I .

P H A L Æ N A A N T I Q U A .

WHITE SPOT TUSsock Moth,

OR

V A P O U R E R .

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ taper from the base : wings in general deflected when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

Anterior wings ferruginous, with a white lunule at the posterior angle : female apterous.

P H A L Æ N A A N T I Q U A : alis primoribus ferrugineis : lunula alba anguli posterioris : femina aptera. *Linn. Fn. Suec.* 1120. *Gmel. Linn. Syst. Nat. T. 1. p. 5. 2439. 56.*

The female Vapourer Moth appears at first sight to resemble an apterous insect ; but on inspection will be found to exhibit a pair of wings of very minute size at the base of the thorax ; and besides this, the antennæ are alone sufficiently characteristic to determine it an insect of the *Phalæna* tribe. It creeps in a sluggish manner, and lays an abundance of eggs.

FIG. 1. The female.

FIG. 2. The male.

The

The Caterpillars feed on white thorn, and on fruit trees in general. They have been known to live on the deadly night-shade, and other poisonous plants. The species is found in the Caterpillar state in July, and the Moth in September.

